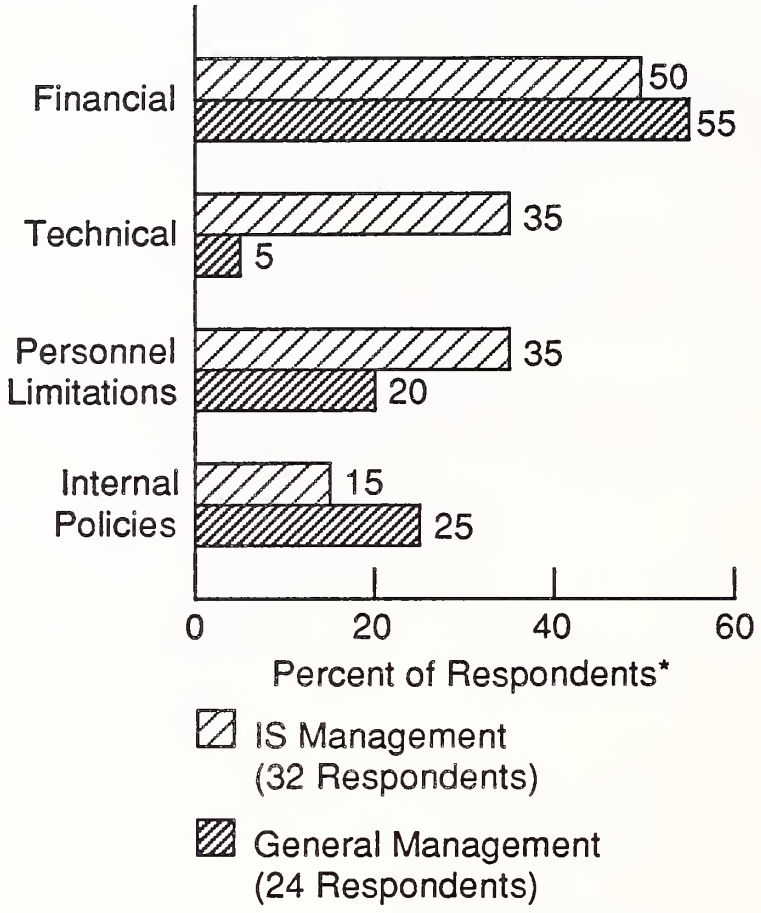
COMMERCIAL SYSTEMS INTEGRATION

WESTERN EUROPE 1986 - 1993

INPUT

EXHIBIT IV-6

USER PERCEPTION OF CONSTRAINTS ON NEW PROJECT DEVELOPMENT



*Rounded to nearest 5%. (Multiple Responses.)

Source: INPUT User Survey

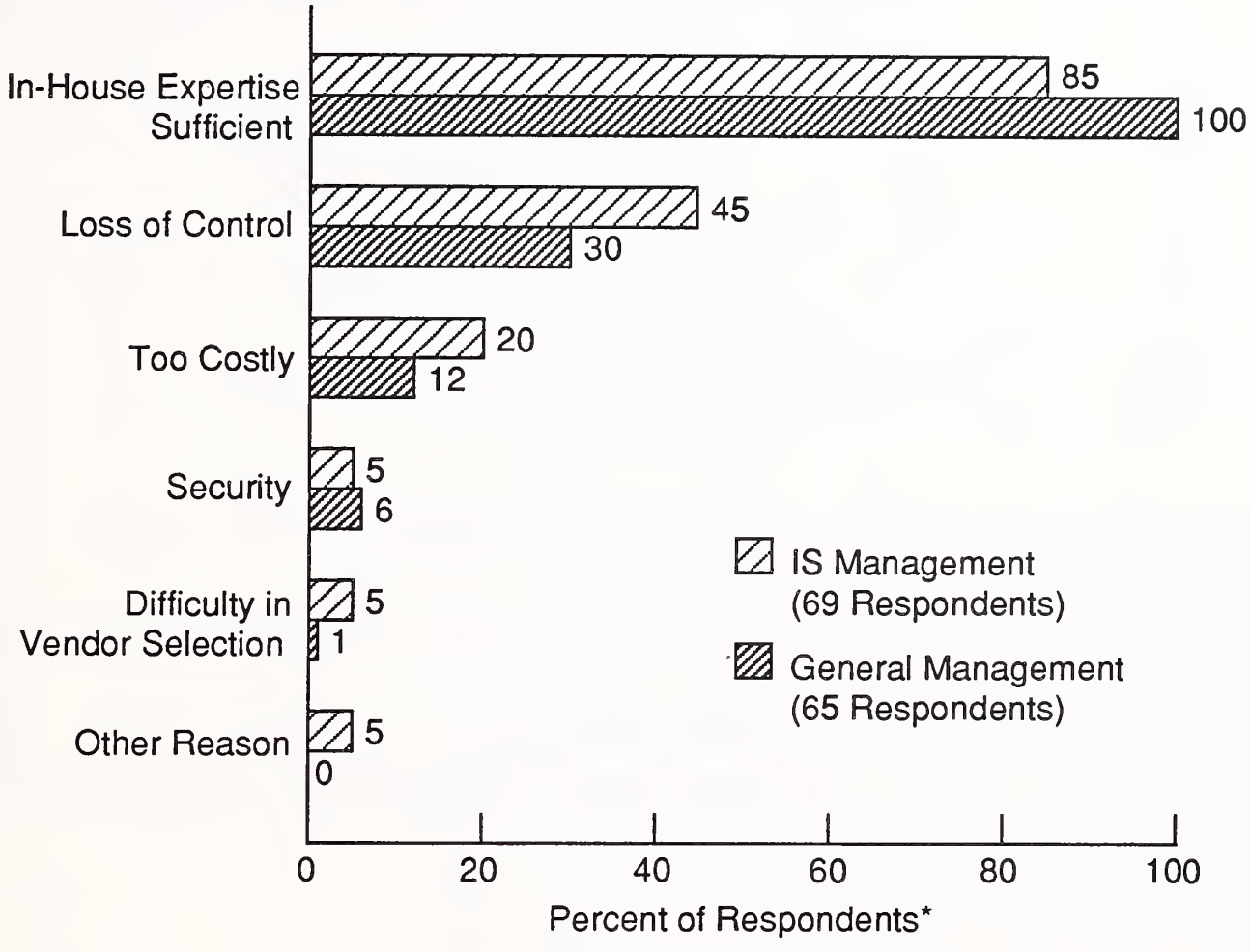
User's reasons for not using subcontractors are analysed in Exhibit IV-7. Clearly, only three are given any real weight:

- The in-house expertise is sufficient and, there is no need for outside resources.
- The user is fearful of losing control of what is considered to be a vital aspect of his operation.
- Using outside contractors is too costly.

© 1988 by INPUT. Reproduction Prohibited.

EXHIBIT IV-7

USERS' REASONS FOR NOT USING SUBCONTRACTORS



*Rounded to nearest 5%. (Multiple Responses.)

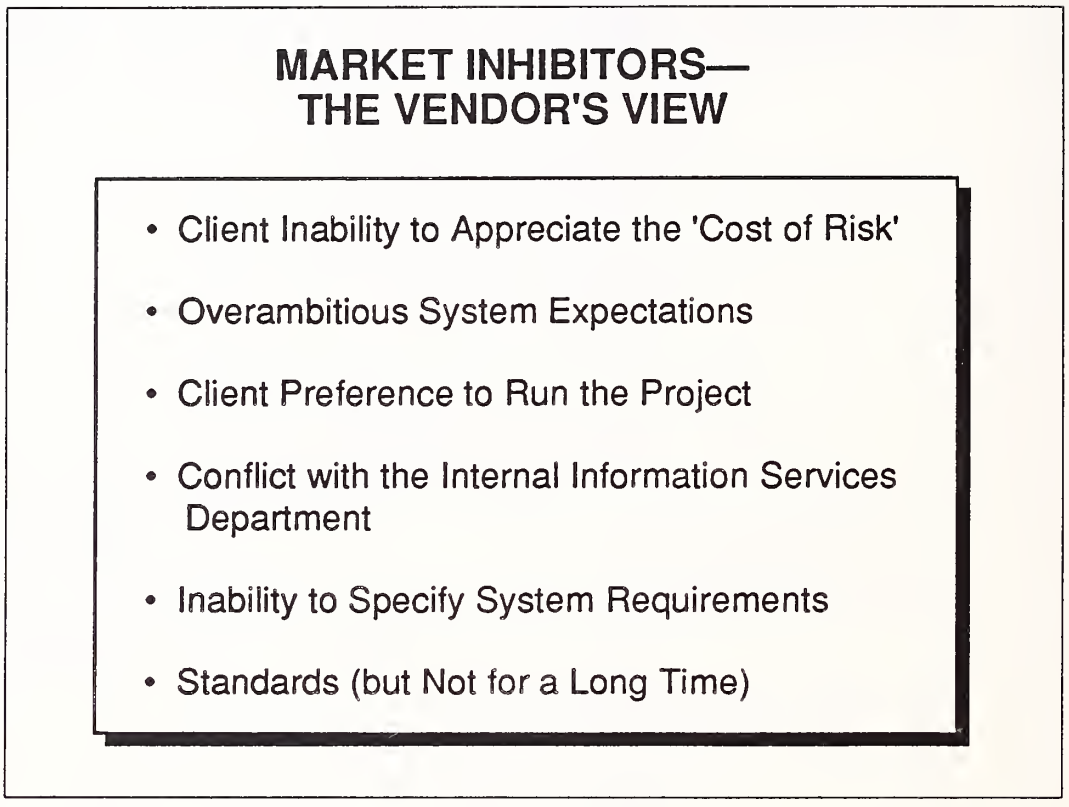
Source: INPUT User Survey

Clearly if the resources are available in-house then there is no need to seek an outside service solution. However, the issue of loss of control is considered by INPUT to be essentially an emotional reaction except in those instances where an innovative organisation has created a truly unique system and fears its transference to competitors. Citing 'loss of control' is more typically a failure to appreciate that subcontracting work can actually increase managerial control. The systems objectives become enshrined in a contractual obligation on the part of a third party. The purchaser is in a position to impose penalties and ultimately to cancel the contract for reasons of failure or non-performance. These options largely do not exist internally.

© 1988 by INPUT. Reproduction Prohibited.

Vendors providing systems integration services also cited certain factors that act as inhibitors to the development of the market and these are listed in Exhibit IV-8. It is clear that in the commercial sector the users' inability to define adequately his system needs is a major inhibitor for applications development by means of a systems integration contract.

EXHIBIT IV-8


MARKET INHIBITORS—
THE VENDOR'S VIEW
• Client Inability to Appreciate the 'Cost of Risk'
• Overambitious System Expectations
• Client Preference to Run the Project
• Conflict with the Internal Information Services Department
• Inability to Specify System Requirements
• Standards (but Not for a Long Time)

3. Business/Commercial Drivers

In addition to the basic technological drivers and their consequent system management problems, it must also be realised that the business, commercial and administrative environment is changing too. Liberalisation in banking and finance and telecommunications, the '1992 European Single Market' initiative and world business conditions are all placing considerable pressures on the way organisations operate.

These factors are all considered to be potential drivers for the systems integration business; they create the conditions for major changes in the way that information systems are used. The principal business and commercial drivers in respect of systems integration are summarised in Exhibit IV-9.

© 1988 by INPUT. Reproduction Prohibited.

EXHIBIT IV-9

BUSINESS/COMMERCIAL DRIVING FORCES

- International Competition
- "Bottom Line" Management
- Rapid Response and Deployment
- Unstable Organisational Environment

Increasing globalisation of business, with faster communication, opens up access to more economic sources of labour and international competition. Consequently 'bottom line' management, the need to control costs and maintain margins, is high on the agenda of many companies.

Faster communication and greater competition foster the need for more rapid response to consumer opinion (and consumer's actions) and the consequent deployment of resources to achieve that objective. These business needs are driving demand for automatic warehousing systems, communication networks to sales outlets and subcontractors, EDI (electronic data interchange) initiatives and advanced management information systems.

The greater level of international competition and in Europe the particular challenge of '1992' are causing considerable levels of merger and acquisition activity. This unstable organisational environment is creating the need to integrate or replace different proprietary architecture systems and to build new computer/communications networks that meet the needs of these 'new' organisations. All of these business and commercial driving forces, and their parallel effects on administrative organisations create a potential need for systems integration contracts.

C Competitive Environment

The development of the commercial systems integration market has attracted a wide variety of vendors. In addition to those vendors that are addressing this market through the logical pursuance of their principal business activity (the sale of computer or communications hardware, the

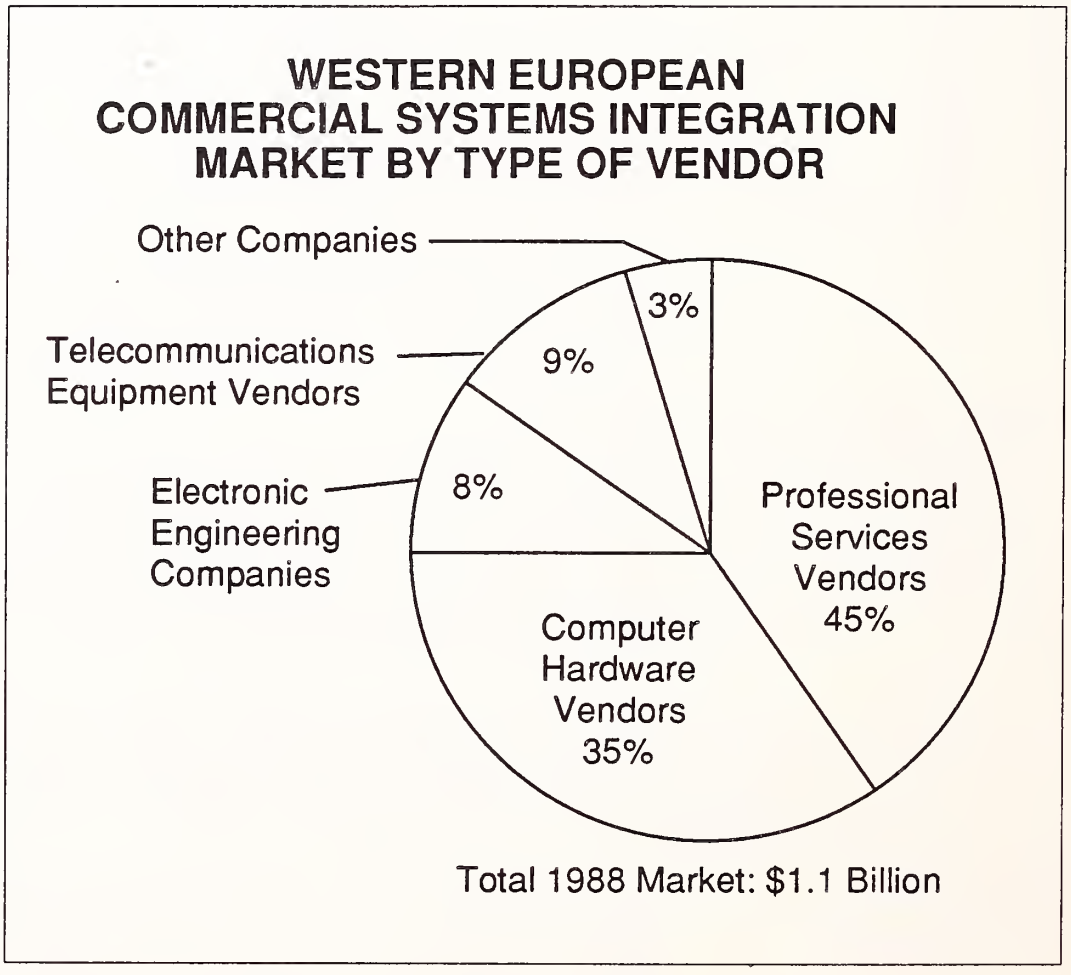
© 1988 by INPUT. Reproduction Prohibited.

provision of professional services), there also exist vendors that have specifically identified commercial systems integration as an area of strategic focus. Perot Systems in the United States and the ICG Group (Information Consulting Group), funded by Saatchi and Saatchi, are examples or organisations specifically set up to address the commercial systems integration opportunity.

Exhibit IV-10 shows the proportions of the market currently held by the main types of vendors, as estimated by INPUT. It can clearly be seen that the professional services vendors and the computer hardware vendors dominate the market as it is constituted today. In total the vendor types involved in commercial integration can be classified as:

- Professional services vendors
- Computer vendors
- Electronic engineering companies
- Telecommunications equipment vendors
- Other vendors

EXHIBIT IV-10



© 1988 by INPUT. Reproduction Prohibited.

The two principal types of vendors, professional services vendors and computer hardware vendors are discussed separately in the subsections below. The most important electronics engineering companies active in this sector are:

- Siemens
- Ferranti
- Mannesman
- Philips
- Thompson

In the telecommunications equipment vendor group, the most significant companies identified are:

- Siemens
- Racal
- GPT (GEC-Plessey Telecommunications)
- Alcatel
- Philips

Companies, like Siemens and Philips, that are involved in a wide variety of business activities are represented in both lists. The other vendors sector includes organisations from a relatively wide range of business backgrounds:

- Aerospace
- Public telephone service providers
- Software products companies

One of the key criteria for success in the systems integration area is to have a very thorough understanding of the technologies being integrated. Project management skills, however finely honed, cannot accommodate the failure to foresee and resolve the technical challenges as they occur. Lack of technological understanding is considered to be the single most important reason for projects failing. As well as functional failure, there exists the condition of relative failure (from the users' viewpoint) where a project overruns its budget, its timescale or both.

This factor was clearly identified by users as one of the most important vendor selection criteria, as seen in Exhibit IV-11. Proven delivery capability within time and budget was the highest-rated vendor selection criteria for the information systems management group and the second-highest-rated (by only a very small margin) for the general management

© 1988 by INPUT. Reproduction Prohibited.

group. High priority is also given to such factors as the quality of the technical staff, having a contract with legally binding performance guarantees and evidence that the vendor has specialist knowledge of the particular industry in question.

EXHIBIT IV-11

VENDOR SELECTION CRITERIA

	User Ratings*	
	IS Management (Sample Size: 84)	General Management (Sample Size: 87)
Proven Delivery Capability within Time and Budget	8.6	8.7
Quality of Technical Staff	8.4	8.8
Legally Binding Performance Guarantee	8.2	8.1
Specialist Industry Knowledge	8.0	8.0
System Support Capability	7.4	7.8
Price	6.9	6.6
Ability to Assume Total Project Responsibility	6.2	6.9

*Scale of 0 to 10, where 10 = critical importance and 0 = totally irrelevant.

Average Standard Error 0.05.

Source: INPUT User Survey.

© 1988 by INPUT. Reproduction Prohibited.

The importance of legally binding performance guarantees to users is mirrored by the vendors' concern to recognise the risk element involved particularly when bidding for fixed price contracts. Although rated relatively highly (6.9 and 6.6 for the two user groups), price only came sixth in priority to users. From the vendor perspective this is healthy since most understand that low pricing leads not only to problems for the vendor in terms of loss on the contract but represents a very real danger for the user of not obtaining the full commitment of his supplier.

The attractiveness of a vendor to a prospective client is dependent upon a number of factors. Perhaps one of the most interesting issues is that of the degree of hardware independence shown by the vendor. Professional services vendors would claim that their independent position guarantees their impartiality in selecting the equipment most suited to the users' needs. Although a number of equipment manufacturers are attempting to position themselves as having a strong degree of hardware independence for this aspect of their business, in general their commercial systems integration business is more likely to stem from those situations where implementation concerns are secondary to the choice of equipment.

1. Professional Services Vendors

As was seen in Exhibit IV-10 the professional services vendor group is estimated to account for around 45% of the commercial systems integration market in 1988. Exhibit IV-12 lists the leading vendors in this group.

It is not surprising that the leading professional services companies have a very significant competitive position in this market. For the most part, the skills that they have developed in taking on responsibility for larger and larger projects have prepared their entry into the systems integration arena. Andersen Consulting has emerged as the market leader in this sector and has experienced very rapid growth.

Cap Gemini Sogeti (CGS) took a majority holding in SESA at the end of 1987 and plans to integrate the company fully at the beginning of 1989. They are considered as one unit for the purposes of this study. SESA has developed its business out of highly technical defense-oriented assignments and has gained an enviable reputation for its expertise in telecommunications and networking. SESA obtains nearly three-quarters of its revenues from systems integration contracts, with the remainder from consultancy, some product sales and smaller system development contracts. Cap Gemini Sogeti, its parent organisation, is the largest professional services company in Europe; combined with SESA it is the largest

© 1988 by INPUT. Reproduction Prohibited.

independent systems integration vendor in the Western European commercial market, generating over twice the level of revenue than the second-ranked company, SD-Scicon.

EXHIBIT IV-12

LEADING WESTERN EUROPEAN PROFESSIONAL SERVICES COMMERCIAL SYSTEMS INTEGRATION VENDORS

Vendor	1988 Estimated CSI Revenues ($ Millions)
Andersen Consulting	155
CGS/SESA	135
SD-Scicon	60
Logica	50
Sema	45

Other prominent professional services companies are Logica and the Sema Group (formerly Sema Metra and CAP Group PLC). Andersen Consulting and EDS are marketing the systems integration concept very aggressively in Europe, driven to some extent by the success achieved by the U.S.-based parent organisations. It is interesting to note that four of the five leading professional services firms identified in this sector are European-owned.

2. Computer Equipment Vendors

The computer equipment vendors also represent a very significant share of the market (35%), the leading companies in this group are listed in Exhibit IV-13. The equipment manufacturers have developed their systems integration business as a result of customer demand for system solutions rather than just equipment needs. This has forced them to take

© 1988 by INPUT. Reproduction Prohibited.

on increasing levels of responsibility for software provision and for the supply of professional services. Of course hardware vendors have for many years had systems integration responsibility for certain very large-scale projects, long before the separate identification of the systems integration market. It has recently become an opportunity that is of sufficient size to warrant specific marketing initiatives. The leading hardware vendors have all made specific statements about this business sector aimed at positioning themselves more effectively. For example, Unisys has set up a specific organisation, the Complex Systems Organisation, to address the commercial systems integration opportunity. Unisys is positioning itself as having distinct skills in integrating different proprietary architectures—a claim derived from its formation out of the Burroughs and Sperry merger. IBM has also set up a formal organisation to address systems integration and Digital has made public statements that underline its recognition of this business opportunity.

EXHIBIT IV-13

LEADING WESTERN EUROPEAN COMPUTER EQUIPMENT COMMERCIAL SYSTEMS INTEGRATION VENDORS

Vendor	1988 Estimated CSI Revenues ($ Millions)
IBM	190
Unisys	55
Digital	30
ICL	25
Olivetti	25

D

Project Classification

Another important market environment issue is that of project classification. Exhibit III-9 in Chapter III showed the vertical market analysis and Exhibit IV-14 shows in schematic form the areas in which commercial systems integration activity is currently occurring in Western Europe. This exhibit shows a project classification between vertical markets and

© 1988 by INPUT. Reproduction Prohibited.

project type. In this analysis projects have been classified into five main groups:

- Administrative/communications network projects
- Communications network projects
- Process control projects
- Materials control projects
- Computer-aided manufacturing projects (CAM)

EXHIBIT IV-14

COMMERCIAL SYSTEMS INTEGRATION— OPPORTUNITY AREAS (Western Europe)

Vertical Market Sector	Project Type				
	Administrative/ Communica- tions Network	Communica- tions Network	Process Control	Materials Control	CAM
Manufacturing			**	*	*
Banking and Finance	*	**			
Telecommunications		**			
Utilities			**		
Transportation		**		*	
Local Government	**				
Other Sectors		*		*	

Key: *Indicates Some Activity
**Significant Activity

© 1988 by INPUT. Reproduction Prohibited.

This exhibit indicates the importance of communications network skills within the Western European sector and the higher level of observed activity in process rather than discrete manufacturing. Within the local government sector the key area, classified as joint application and network projects, is command and control systems for the emergency services: fire, police, etc. Within the 'all other' sector the most significant opportunity seems to lie in the retail area where considerable activity is involved with such developments as EFTPOS.

A further project classification for the Western European commercial systems integration market is shown in Exhibit IV-15. In this exhibit an estimate is provided, based on the commercial systems integration projects identified and analysed by INPUT, of the distribution by project value. The bias is clearly shown in this diagram, with the vast majority of projects (some 70%) falling into the $1 to $5 million category.

© 1988 by INPUT. Reproduction Prohibited.

EXHIBIT V-16

SECTOR ANALYSIS—COMMERCIAL SYSTEMS INTEGRATION MARKET BELGIUM

Market Sector	1988 Market Size (BF Millions)
Manufacturing	380
Banking and Finance	230
Telecommunications	230
Utilities	190
Transportation	115
Local Government	230
Other	150
Total	1,525

In the Netherlands the telecommunications sector is estimated to be the second largest, ahead of banking and finance, whilst in Belgium it is estimated to be around the same size as the banking and finance and the local government sectors. In the telecommunications sector Logica gained a systems integration contract for the development and installation of an X.400-based message handling system, contracted by the Dutch PTT, for dealing with customs declarations.

In the transportation sector, Sabena, the Belgian national airline, awarded Unisys a systems integration contract (valued at $2.8 million) to upgrade its production and test and development facilities.

Exhibits V-17 and V-18 show respectively the leading systems integration contractors in the Netherlands and in Belgium. In the Netherlands Philips, the national electronic engineering company, emerges as market leader with around a 17% market share with the CGS/SESA group in second place with a similar proportion of the market. In Belgium the

© 1988 by INPUT. Reproduction Prohibited.

CGS/SESA group is clearly in first place with around one-fifth of the market. Philips is in third place in the Belgium market. It is interesting to note that IBM is only assessed as being in fourth place in the Dutch market and does not appear in the top five list in Belgium. Logica is represented in both these top five listings.

EXHIBIT V-17

LEADING COMMERCIAL SYSTEMS INTEGRATION VENDORS, 1988 NETHERLANDS

Rank	Vendor	1988 Estimated Revenues (Dfl Millions)	Market Share (Percent)
1	Philips	16	17
2	CGS/SESA	16	17
3	Siemens	10	11
4	IBM	8	9
4	Logica	8	9
4	Andersen Consulting	8	9
	Others	26	28
	Total	92	100

© 1988 by INPUT. Reproduction Prohibited.

EXHIBIT V-18

LEADING COMMERCIAL SYSTEMS INTEGRATION VENDORS, 1988 BELGIUM

Rank	Vendor	1988 Estimated Revenues (BF Millions)	Market Share (Percent)
1	CGS/SESA	300	20
2	Ferranti	230	15
3	Philips	150	10
4	Logica	115	8
5	Sema Group	75	5
5	Andersen Consulting	75	5
	Others	580	37
	Total	1,525	100

F

Scandinavia

INPUT's assessment for the Scandinavian group of countries, Sweden, Norway, Denmark and Finland, is provided in this section of the report. The analysis for each individual country is shown separately in the local currency for each country.

Exhibits V-19 through V-22 respectively show the market size assessment and five-year forecast growth for the commercial systems integration market in Sweden, Norway, Denmark and Finland. Growth rates are expected to vary considerably between these four countries with Sweden the highest with a compound annual growth rate of 28% and Norway with the lowest with a growth rate of only 20% per annum. The problematic state of the Norwegian economy and the decline in the oil industry underpin this assessment of low growth. In contrast Sweden's large internationally-oriented corporations are expected to need to make significant investments that will generate systems integration contracts.

© 1988 by INPUT. Reproduction Prohibited.

EXHIBIT V-19

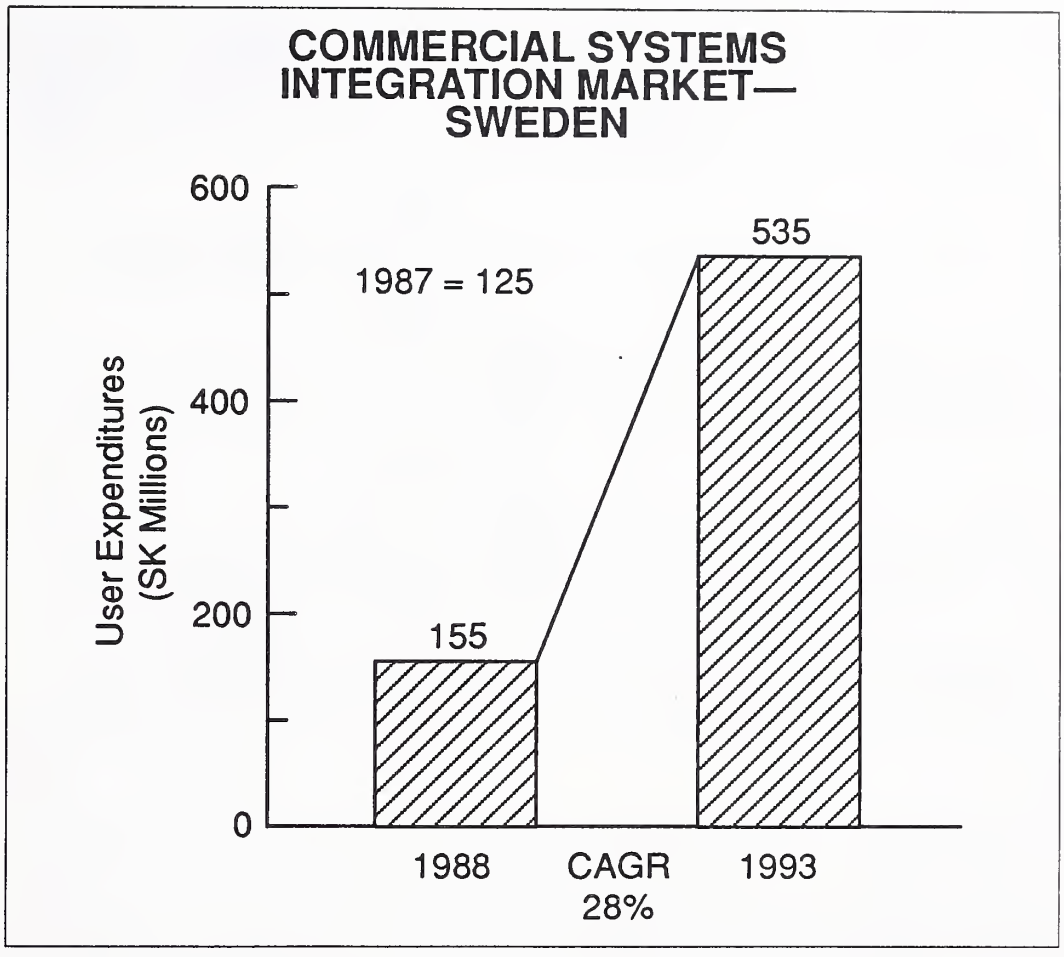
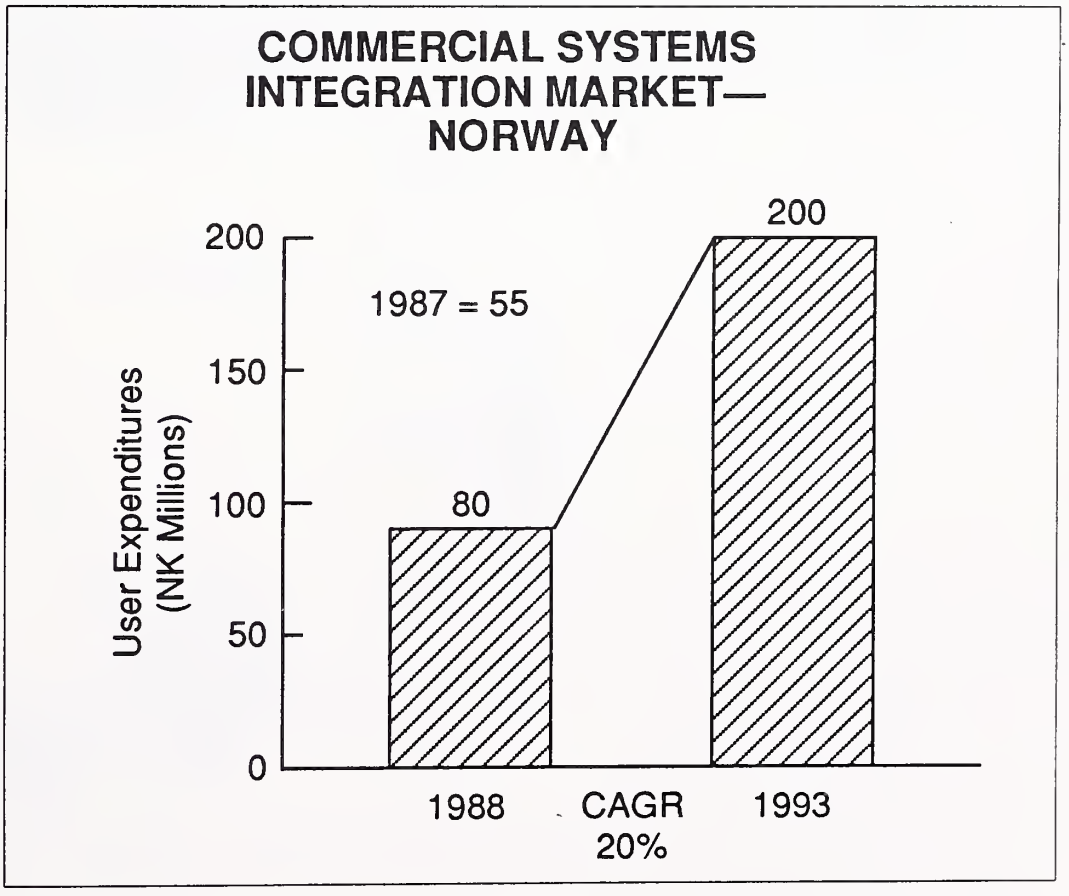


EXHIBIT V-20



© 1988 by INPUT. Reproduction Prohibited.